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A REVISION OF THE GENUS *BRACHYPREMNA*  
OSTEN SACKEN (TIPULIDÆ, DIPTERA).<sup>1</sup>

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The genus *Brachypremna* was erected by Osten Sacken in 1886.<sup>2</sup> for *Tipula dispellens* Walker; at the same time *Tipula breviventris* Wiedemann was definitely referred to this genus. The following year,<sup>3</sup> in part 2 of his "Studies on Tipulidæ," the same author described two new species, *pictipes* and *unicolor*, and gave a key (*l. c.*, p. 239) for the separation of the four known species. In 1900, Wiliston<sup>4</sup> described the fifth species, *similis*. I have had for study some fifty specimens of *Brachypremna* received from the various Eastern Museums, and in this material I found all of the known forms excepting *pictipes*. There was also included a new species, hereinafter described, and a single specimen of the hitherto unrecognized *Tipula albimana* of Wiedemann. This name is preoccupied by *T. albimana* Fabricius (Mantissa Ins., vol. 2, p. 232, 1787) and I propose the name *candida* for the South American species. The seven species at present known are separated by the included key. *Brachypremna eocenica* Meunier was recently<sup>5</sup> described from the baltic amber.

<sup>1</sup> Contribution from the Entomological Laboratory, Cornell University.

<sup>2</sup> Berl. Ent. Zeitschr., Vol. 30, p. 161.

<sup>3</sup> Berl. Ent. Zeitschr., Vol. 31, pt. 2; pp. 239, 240.

<sup>4</sup> Biologia Centrali-Americana, Dipt., Vol. 1, Supplement, p. 229.

<sup>5</sup> Monograph of the Tipulidæ and Dixidæ in the Baltic Amber, Ann. Sci. Nat. Zoöl., Vol. 4, p. 394; pl. 16, fig. 6. (Paris, 1906.)

I am under obligations to Mr. E. T. Cresson, Jr., for the loan of the material in the Academy of Natural Sciences, Philadelphia; to Mr. Grossbeck for the American Museum forms; to Mr. Samuel Henshaw for the especially desired specimens of *Brachypremna unicolor* from the Loew Collection, now in the Museum of Comparative Zoölogy, Cambridge; to Mr. Fred'k Knab for the extensive collections of the U. S. National Museum, collections which contained all of the six species that I have examined; to Dr. J. Chester Bradley for the Cornell University specimens, especially rich in *B. dispellens*, and to Mr. E. B. Williamson for some very interesting material, collected on the author's recent trip to British Guiana. I express my gratitude to all of the above gentlemen, and to others hereinafter mentioned.

#### CHARACTERS OF THE GENUS.

Head: rostrum elongated; nasus distinct, cylindrical, bearing a number of elongated hairs at its apex; maxillary palpi elongated; segments one and two short, subequal; segment three, half again as long as the second; last as long as two and three together; antennæ short; first segment cylindrical; second, globular; flagellar segments elongate-ovate, gradually more slender and elongated, bearing scattered hairs.

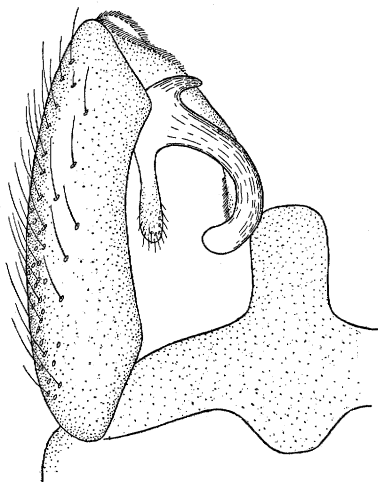
Thorax: pronotum and collare slender, distinct, so that the head is separated from the mesonotum; legs long and slender, the tarsi almost as long as the femora and tibiæ combined; hind tibiæ spurred; the fore and middle tibiæ apparently spurless.

Wing venation: *Sc* long, ending opposite (*unicolor*) or beyond the fork of *Rs*; *Rs* strongly arcuated at its origin, almost square but not spurred, longest in *unicolor*, shortest in *candida*;  $R_{2+3}$  of varying length, shortest, relatively, in *unicolor*, longest, relatively, in *candida*; crossvein *r* long connecting  $R_{2+3}$  at the fork; *R* very pale, vertical, basal deflection of  $R_{4+5}$  prominent in all the species excepting *unicolor*; cross-vein *r-m*, when present, always short; cross-vein *m* very long, forming the distal face of cell 1st  $M_2$ ; petiole of cell  $M_1$  moderately long except in *unicolor* where it is very short; basal deflection of  $Cu_1$  slightly beyond the fork of *M*, except in *unicolor* where it is located at, or proximad of, the fork; fusion of  $M_3$  and  $Cu_1$  short, almost *nil* in *unicolor*, moderate in most species, longest in

*candida*; cell 1st  $M_2$  large, subquadrate in all the species, except *unicolor* where it is almost triangular; 2d anal very short, straight, leaving cell 2d  $A$  very long and narrow.

From the above it will be seen that *unicolor* is the most distinct species, venationally, with *candida* second. The other species show a great similarity as regards the course of the veins; a character that I have used, should be explained; in the comparison between the length of the sector, beyond the strong basal arcuation, the straight portion of the vein is compared with that portion of  $M_{1+2}$  lying between the cross-veins  $r-m$  and  $m$ , i. e., cephalic margin of cell 1st  $M_2$  (discal).

Abdomen: rather long and narrow. Hypopygium (see text fig-



Hypopygium of *Brachypremna dispellens* Walk., dorsal aspect.

ure): margin of the 9th sternite convex with a broad, obtuse notch; pleural pieces elongate, cylindrical (in lateral outline, triangular); with a deep groove on the ventral face; outer face beset with long hairs; apical appendage, elongate, hairy, the basal half rather fleshy, the apical half chitinized; viewed from the side the chitinized tip is strongly curved with the tip flattened and rather expanded; on the outer side at the base of the chitin, is a stout conical tooth; on the inner face at the end of the fleshy portion of the arm is a fleshy,

elongated lobe, beset with stout hairs; the guard of the penis is short and stout; anal tube very short. In a position of rest, the appendages tightly fit into grooves on the ventral side of the pleural pieces.

Ovipositor of the female with the valves rather short, straight, pointed.

KEY TO THE SPECIES OF *Brachypremna* O. S.

1. Basal deflection of  $R_{4+5}$  obliterated, so that  $R_{2+3}$  and  $R_{4+5}$  arise directly from the end of the radial sector;  $R_8$  elongate; cell 1st  $M_2$  sub-triangular; legs uniform brown. (Antilles.).....*unicolor* O. S.  
Basal deflection of  $R_{4+5}$  prominent;  $R_8$  shorter; cell 1st  $M_2$  sub-quadrate; legs variegated with white or yellowish-white.....2
2. Femora with the tip dark, brownish-black.....3  
Femora with the tip abruptly light-colored, white or yellowish-white.....5
3. Tibiæ uniformly pale, whitish. (East U. S.—Brazil.).....*dispellens* Walker.  
Tibiæ more or less dark colored.....4
4. Tibiæ white at the extreme base only. (Guiana, Brazil, Bolivia.)  
*breviventris* Wied.  
Tibiæ white at the base and tip. (Guiana—Brazil.).....*williamsoni*, n. sp.
5. Tip of tibiæ broadly pale; tarsi pale.....6  
Tip of tibiæ and the tarsi dark, concolorous with remainder of the legs. (Mexico—Panama.) .....*similis* Williston.
6. Tibiæ with a narrow dark band, three mm. broad, situated one and one half mm. from the base. (Brazil.).....*pictipes* O. S.  
Tibiæ with the dark median band, broad, comprising about half the length of the segment. (Guiana—Brazil.).....*candida* n. n.

***Brachypremna dispellens* Walker.**

1860. *Tipula dispellens* Walker, Trans. Ent. Soc. Lond., Vol. 5, new series, p. 334. 1878. *Tipula dispellens* Osten Sacken, Cat. Dipt. N. Am., ed. 2, p. 39. 1886. *Brachypremna dispellens* Osten Sacken, Berl. Ent. Zeitschr., Vol. 30, p. 162. 1900. *Brachypremna dispellens* Williston, Biol. Cent.-Amer., Dipt., Vol. 1, suppl., p. 229. 1909, *Brachypremna dispellens* Johnson, Boston Soc. Nat. Hist. Proc., Vol. 34, p. 123.

Head: rostrum light brown, the nasus rather short, dark brown; palpi, basal segment dark brown; second, brown at the base, paler, yellowish-white, apically; third segment entirely pale; fourth segment dark brown. Antennæ, basal segments pale, flagellar segments light brown, the apices of the segments indistinctly paler. Front, vertex and occiput rather dark brown, except a very narrow, pale border adjoining the inner margin of the eye; center of the vertex clear-gray.

Thorax: prothoracic scutum pale, the lateral margins dark brown and two elongated spots on either side of the median line. Mesonotum, præscutum light brown, the extreme cephalic margin and the lateral edge, paler, whitish; a distinct narrow brown line, arcuated outwards at the cephalic margin of the sclerite,

thence continuing straight to the suture, the pale median line enclosed by them very narrow; sides of the sclerite dark brown, with an elongate, triangular, white mark, beginning on the lateral end of the suture before the wing-base, running inward; scutum light brown with three dark brown stripes, the median one broader; scutellum brown on the sides, in the middle silvery-white with an elongate brown median vitta; postnotum silvery-white, tri-vittate with dark brown, the pale stripes a trifle narrower than the dark median stripe. Pleuræ dull silvery-white, less clear anteriorly, with narrow dark brown stripes, the most dorsal of which begins at the præscutal pseudosutures (humeral pits), runs very obliquely under the bases of the wings and halteres and ends in the abdominal sternites; the second stripe is interrupted and includes the outer face of most of the coxæ. Halteres: knob brown, stem pale. Legs: coxæ gray with a distinct brown stripe; trochanter pale; fore and middle femora dark brown; hind femur light brown, darkening to the tip; tibiæ and tarsi entirely pale yellowish-white.

Wings: subhyaline, costal cell light brown or gray; cell  $R_2$  with the costal border brown; tip of cell  $R_3$  narrowly brown on the caudal margin; veins conspicuously margined with brown; tips of the median veins and  $Cu_1$  very pale; stigma pale brown, margined with blackish-brown. Venation (see Fig. b):  $R_8$  rather long, beyond the arcuation a little longer than  $M_{1+2}$  between cross-veins  $r-m$  and  $m$ ;  $r-m$  short, but distinct, basal deflection of  $Cu_1$  beyond the fork of  $M$ ; fusion of  $Cu_1$  and  $M_3$  rather extensive.

Abdomen: tergum dark brown with indications of a paler, median, dorsal stripe; sternum very pale, the basal segments with oval dark brown spots in the middle, these fading out caudad into a lighter brown; in the distal segments, the dark brown spots become much more elongated. Hypopygium, see the generic characterization.

♂ (Vienna, Georgia), length, 11.5–15.8 mm.; wing, 15.2–19.6 mm. Fore leg, femur, 11.8 mm.; tibia, 13.5 mm. Hind leg, femur, 11.6–15 mm.; tibia, 12.6–17.2 mm.

♂ (Igarape-Assu, Brazil), length, 13.8 mm.; wing, 18.1 mm. Fore leg, femur, 11.6 mm.; tibia, 13 mm. Hind leg, femur, 13.9 mm.; tibia, 15.5 mm.

♀ (Igarape-Assu, Brazil), length, about 15.8 mm.; wing, 16.8 mm. Fore leg, femur, 11.2 mm.; tibia, 12 mm. Hind leg, femur, 12.8 mm.; tibia, 14.1 mm.

*Distribution.*—United States: New Jersey, Shark River, Monmouth Co. (Johnson); District of Columbia, Washington (Osten Sacken); North Carolina, Pendleton, Northampton Co. (Johnson); Kentucky, in Mus. Comp. Zool. (Johnson); Georgia, Atlanta, Felton Co.; Vienna, Dooly Co., Albany, Dougherty Co., Bainbridge, Decatur Co. (Dr. J. C. Bradley), and Billy's Island, Okeefnokee Swamp, Charleston Co. (Cornell University Exped. 1912); Florida, Tick Island, Volusia Co. (Johnson), Jacksonville, Duval Co. (Johnson); Texas, Dallas, Dallas Co. (Boll). Mexico: Tabasco, Teapa and

Frontero (H. H. Smith); Vera Cruz, Medellin (H. H. Smith); Isthmus of Tehuantepec (Sumichrast). Cent. Am.: Guatemala, Antigua (Eisen), Aguna (Eisen). Antilles: Trinidad (Busck), Cunapo River, Trinidad (Williamson). Dutch Guiana (authority Osten Sacken; Berl. Ent. Zeit., vol. 31, p. 239). Brazil: Para, Igarapé-Assú (Parish).

*B. dispellens* is readily distinguished from all of its allies by the uniform pale tibiae. Northern specimens (Georgia) seem to have the coloration clearer cut, the pattern more grayish. Specimens from Guatemala have the costal cell of the wings more yellowish-brown; cell  $R_2$  brown in the middle, paler along the costal margin; the tibiae and tarsi more yellowish-white, etc. However, the Brazilian material shows almost the same type of coloration as the Georgia specimens and the discrepancy in color must be attributed to the age of the specimens and other factors.

***Brachypremna breviventris* Wiedemann.**

1821. *Tipula breviventris* Wied., Dipt. Exot., Vol. 1, p. 43. 1828. *Tipula breviventris* Wied., Aussereur. Zweifl. Insekt., Vol. 1, p. 47. 1886. *Brachypremna breviventris* Osten Sacken, Berl. Ent. Zeit., Vol. 30, p. 161. 1900. *Brachypremna breviventris* Hunter, Trans. Am. Ent. Soc., Vol. 26, p. 285. 1902. *Brachypremna breviventris* Kertész, Cat. Dipt., Vol. 2, p. 264.

Head: rostrum brown, shiny; nasus black, tipped with yellow hairs; palpi, basal segment yellow; second dark brown, tipped with pale brown; remaining segments dark brown. Antennae, basal four or five segments light yellow; remainder gradually darker, brown. Front light cream-color, vertex and occiput brown with a sparse yellow bloom.

Thorax: light brown, mesothoracic præscutum with a narrow brown stripe on either side of the very narrow median pale stripe; a short broad dark stripe beginning just behind the proximal end of the pseudo-sutural fovea, broadening out behind, somewhat interrupted at the suture; scutum dark brown on the lobes, this color a continuation of the lateral præscutal stripes, scutum pale medially; scutellum pale with a short, double, brown median line; post-notum brown, with two narrow pale stripes on either side, these being a continuation of the pale vittae on the scutellum. Pleurae brown anteriorly, the meso- and meta-pleurae with a gray bloom; the sclerites with brown margins giving the pleurae a spotted appearance. Halteres: stem pale, knob brown. Legs: coxae dark brownish with a large pale spot on the outer face; trochanter yellow; femora light yellowish-brown, darkening at the tip to a brownish-black; tibia with the extreme base, abruptly yellowish-white; remainder of the tibiae dark brown; base of the metatarsus dark brown, concolorous with the tibia, the remainder of the tarsi brightening to a yellowish-brown.

Wings: costal cell brownish; remainder of the wing sub-hyaline; cell  $R_1$

largely pale brown; cell  $R_2$  with the extreme cephalic margin pale yellow, running down and ending at a drop in the end of cell  $R_3$ ; cell  $R_2$  brown, with the caudal margin sub-hyaline; end of cell  $R_3$  dark with the yellowish spot above described;  $R_5$  dark at tip with a hyaline drop in the outer caudal angle; cell  $M_1$  almost hyaline; veins with narrow brown seams; stigma usually with a large sub-hyaline spot in under  $r$ , sometimes small or absent. Venation (see Fig. *d*):  $R_8$  rather long, beyond the arcuation longer than  $M_{1+2}$  between cross-veins  $r-m$  and  $m$ ; basal deflection of  $Cu_1$  beyond the fork of  $M$ .

Abdomen: tergum brown, extreme bases of the segments, pale yellowish; sternum light brownish-yellow with a distinct elongate-ovate black spot in the middle of each segment.

♂, wing, 21 mm. Fore femur, 12.7 mm.; fore tibia, 14 mm.

♀, length, 17.4–17.9 mm.; wing, 18–18.8 mm.; fore leg, femur, 11.3–11.6 mm.; tibia, 13–14.5 mm.; hind leg, femur, 13.2–13.8 mm.; tibia, 13.6–14.9 mm.

*Distribution*.—Dutch Guiana: Cigi Makoe (H. Polak), Paramaribo (Miss Mayo). Brazil: Igarapé-Assú, State of Para (Parish), Rio Blanco (H. H. Smith).

*B. breviventris* may be readily distinguished by its dark femoral and tibial tips and pale basal tibial ring.

***Brachypremna williamsoni*, new species.**

Tip of femur dark; base and tip of tibia abruptly light colored; wings tinged with darker.

♂, length, 11.3–15.7 mm.; wing, 14.8–19.3 mm. Fore leg, femur, 10 mm.; tibia, 11.4 mm. (paratype No. 1).

Head: rostrum brown; palpi, basal segment mostly black, second yellow at extreme base and tip, remaining segments brownish-black. Antennæ, basal segments, pale brown; second, light yellow; flagellar segments with the base brown, tip yellowish, the brown increasing on the outer segments. Front brown; vertex and occiput light brown, brighter colored adjoining the eye.

Thorax: rather similar to *breviventris*, the long intermediate brown stripes quite indistinct; post-notum with the median brown stripe divided by a pale median line. Pleuræ without distinct brown spots. Halteres: base of stem pale, thence gradually darkening to the brown knob. Legs: coxæ grayish-yellow, indistinctly spotted with brown; femora brown, not darkened at the tip as in *breviventris*; tibia dark brown, a narrow ring at base and tip, pale yellowish-white, tarsi brown, lighter colored toward the tip.

Wings: conspicuously tinged with darker; costal cells brown; cell  $R_2$  with a brown cloud in cephalic portion and a hyaline droplet near outer end;  $R_3$  dark at outer end with a sub-apical hyaline spot;  $R_5$  similar with a conspicuous rounded drop;  $M_1$ , cephalic margin of tip brown, caudal margin of tip with a hyaline drop; cell  $M_1$  dark, not hyaline, as in *breviventris*; veins with narrow seams of darker brown; stigma brown, a pale spot in it just below cross-vein  $r$ ; (in the type ♂, stigma clear brown). Venation (see Fig. *e*):  $R_8$  beyond



arcuation short, scarcely longer than  $M_{1+2}$  between cross-veins  $r-m$  and  $m$ ; basal deflection of  $Cu_1$  before the middle of cell 1st  $M_2$ .

Abdomen: tergum brown, the base of the sclerite paler, more yellowish; sternum pale, the median markings pale brown, broadly ovate, not elongate or black.

Paratype No. 1 differs in having the tibiae unicolorous throughout, dark brown.

Paratype No. 2 has the tarsi much lighter, yellowish.

Paratype No. 3 is much larger (largest measurements given).

Holotype, ♂, Wismar, British Guiana. (Williamson, Coll.) Jan. 30, 1912.

Type in author's collection.

Paratype No. 1, ♂, with the type.

Paratype No. 2, Paramaribo, Dutch Guiana. (Miss Mayo.) (In Coll. Acad. Nat. Sci. Phil.)

Paratype No. 3. Manaus, State of Amazonas, Brazil. (Miss Merrill.) (In Coll. U. S. Nat. Mus.)

*B. williamsoni* is a small species finding its nearest relative, apparently, in *breviventris* Wied. It differs from this species in the pale tibial tips; the oval brown markings on the abdominal sternites (these being linear and brownish-black in *breviventris* and most other species), and in different wing-pattern. I take pleasure in naming this interesting form after Mr. E. B. Williamson, of Bluffton, Indiana, who collected the types while in Guiana in 1912, in search of Odonata.

### ***Brachypremna similis* Williston.**

1900. *Brachypremna similis* Will., Biol. Cent.-Amer., Dipt. 1, Supplement, p.

229. 1902. *Brachypremna similis* Kertész, Cat. Dipt., Vol. 2, p. 265.

Head: rostrum, light brownish-yellow, darker on the side; nasus brown with brownish-yellow hairs; palpi mostly brown, in some specimens the two basal segments are light yellow. Antennæ with the basal segments pale, yellowish; segments three to five, brown at base, pale at apex; remainder of the antennæ brown. Front, vertex and occiput dark brown, except a narrow yellow margin immediately adjoining the eyes.

Thorax: præscutum usually with the pale narrow median stripe not distinct (in some specimens it is apparent behind, in the vicinity of the suture), the pale stripes separating the broad lateral stripes from the median vitta are narrow and ill-defined; scutum dark brown on the lobes, paler medially; post-notum with the median brown vitta broad, the adjoining pale stripes very narrow. Pleuræ pale, spotted with brown, these brown marks being on the margin of the sclerites. Halteres brown, the root of the stem paler. Legs:

coxae pale, yellowish-white; femora brown, darkening outwardly, the tip abruptly pale yellowish-white; tibiae with a basal ring, subequal in width and of the same color as the femoral band; remainder of the tibiae dark brown; tarsi brown, the apical segments becoming paler, yellowish-brown.

Wings: costal cell yellowish-brown; cell  $R_2$  almost clear, more yellowish on the costal margin; outer end of cell  $R_3$  narrowly blackish-brown on the caudal margin; cell  $R_3$  dark brown with a rounded hyaline drop; cell  $M_1$  almost hyaline, with a large oval, even clearer, drop at its end; veins very indistinctly margined with darker; stigma dark brown, paler in the center. Venation (see Fig. a):  $R_8$  rather short, beyond the arcuation, a little longer than  $M_{1+2}$  between  $r-m$  and  $m$ ;  $r-m$  a little more distinct than is usual in the genus; basal deflection of  $Cu_1$  just beyond the fork of  $M$ .

Abdomen: tergum dark brown, the extreme base of the segments paler, less distinct on the apical segments; sternum light brown with an elongate blackish spot in the middle of each segment; hypopygium rather browner than in related species.

♂, length, 15.2 mm.; wing, 18.4–20 mm. Fore leg, femur, 12.1 mm.; tibia, 14.3 mm. Hind leg, femur, 14.8 mm.; tibia, 15.9 mm.

♀, length about 15 mm.; wing, 16.6 mm. Fore leg, femur, 11 mm.; tibia, 13 mm. Hind leg, femur, 12.7 mm.; tibia, 14.6 mm.

*Distribution*.—Mexico, Teapa in Tabasco (H. H. Smith); Guatemala, Livingston (Schwarz-Barber); Nicaragua, Escondido R., 50 miles from Bluefields (Richmond); Panama, Gatun (Jennings), Porto Bello (Busck), Paraiso (Busck).

Distinguished from the other species with pale femoral tips, *candida* and *pictipes*, by the dark tibial apices.

#### **Brachypremna candida, new name.**

1830. *Tipula albimana* Wied., Aussereur Zweifl. Insekt., Vol. 2, p. 615. non *T. albimana* Fab. 1900. *Tipula albimana* Hunter, Trans. Am. Ent. Soc., Vol. 26, p. 286. 1902. *Tipula albimana* Kertész, Cat. Dipt., Vol. 2, p. 281.

Head: rostrum yellowish; nasus pale with pale hairs; palpi, first segment dark brown; second segment mainly yellowish; remainder black. Antennae, first two segments yellowish, remainder dark brown. Front, vertex and occiput pale with a gray bloom.

Thorax: præscutal stripes about as in *breviventris*, but very indistinct; the usually distinct markings of the mesothoracic scutellum and postnotum not at all evident. Pleurae brown, without distinct markings. Halteres brown, extreme base of the stem pale. Legs: femora brownish-yellow at base, gradually darkening to brown, with a rather broad, apical yellow ring; tibia with a basal yellow band about as wide as the femoral; apice of the tibia more or less yellowish-white, broadest on the hind leg, where it covers nearly one half of the segment; tarsi pale yellowish-white.

Wings: almost hyaline, cell  $C$  only a little more yellowish than the rest of

the wing; wing tip suffused with brown; inner end of cell  $R_2$ , adjoining vein  $R_2$ , pale, hyaline; remainder of cell  $R_2$ , most of  $R_3$  and outer end of  $R_5$ , uniformly brown, without hyaline droplets as in most of the species; veins rather indistinctly seamed with darker color; stigma dark brown, uniform. Venation (see Fig. f):  $R_8$  very strongly arcuated, beyond the arcuation,  $R_8$  is shorter than  $M_{1+2}$  between the cross-veins  $r-m$  and  $m$ ; fusion of  $M_3$  and  $Cu_1$  extensive, longer than  $R_2$ .

Abdomen: tergum brown, segments paler basally, rather darker apically; 8th segment brownish-black; hypopygium pale; sternites not visible in the single specimen before me.

♂, length, 12 mm.; wing, 14.2 mm. Hind leg, femur, 13 mm.; tibia, 15.6 mm.

*Distribution*.—Dutch Guiana (Wiedemann's type); Brazil (Manaos, State of Amazonas) (Miss Merrill, Coll.). Specimen in U. S. Nat. Mus. Coll.

This small species is conspicuously different from the nearest related species in its wing and leg pattern. The lack of hyaline droplets in the ends of the radial cells distinguishes it from *similis*, *breviventris* and *williamsoni*. The leg pattern is closest to *pictipes*, but I cannot believe the two species to be conspecific. *Pictipes* is larger, and the dark tibial band in only 3 mm. broad; *candida* is our smallest species and the tibial band is broad, narrowest on the hind legs (6 mm.) and very wide on the fore legs (12 mm.).

### **Brachypremna pictipes Osten Sacken.**

1887. *Brachypremna pictipes* O. S., Berl. Ent. Zeitschr., Vol. 31, pt. 2, p. 239.

1900. *Brachypremna pictipes* Hunter, Trans. Am. Ent. Soc., Vol. 26, p. 285.

1902. *Brachypremna pictipes* Kertész, Cat. Dipt., Vol. 2, p. 265.

♂.—Front and vertex brownish, paler in the middle; antennæ brownish, two basal segments yellow; rostrum yellowish above, brown below; palpi brown at base and tip but yellow in the middle. Ground color of thorax brownish-yellow; collar with a short double longitudinal stripe in the middle and a lateral brown spot on each side; mesonotum with a double brown intermediate stripe and short, broad lateral stripes; metanotum pale with three brown stripes; some brown spots on the pleuræ. Abdomen brown above, with a very faint longitudinal stripe on the basal segments; venter yellowish with a brown streak in the middle of each segment, forming an interrupted longitudinal stripe; male genitals, small, yellowish. Halteres brownish, paler at bases. Femora brownish, the tip yellowish-white for about 1.5 mm.; tibiæ and tarsi yellowish-white except a brown ring on the tibiæ, about 3 mm. broad placed at about 1.5 mm. from the knee, the interval being white. Wings with a uniformly pale brownish tinge, the stigma but slightly darker; venation like *B. breviventris* Wied. L. 16–18 mm.

Hab. Cassapava, Brazil. (Sellow, Coll.)

"Type in Berlin Museum."

Adapted from Osten Sacken's original description, *l. c.*, p. 239.

**Brachypremna unicolor Osten Sacken.**

1887. *Brachypremna unicolor* O. S., Berl. Ent. Zeit., Vol. 31, pt. 2, pp. 239-240.

1900. *Brachypremna unicolor* Hunter, Trans. Am. Ent. Soc., Vol. 26, p. 285.

1902. *Brachypremna unicolor* Kertész, Cat. Dipt., Vol. 2, p. 265.

Head: rostrum light brown; nasus concolorous, with short hairs; palpi, basal segment, brownish at origin, paler apically; second segment pale; remaining segments brown. Antennæ, first segment brown; second segment much lighter colored, yellow; flagellar segments dark brown with the extreme tip yellow, producing an annulated appearance, this coloring becoming obsolete near the end of the flagellum. Front, vertex and occiput light yellowish-brown.

Thorax: præscutum light brown, the anterior portion of the sclerite suffused with brownish, concealing the usual stripes; two distinct brown dots on the extreme cephalic margin of the sclerite; on the caudal portion of the sclerite, the dark stripes become distinct; median dark stripe not double; scutum uniformly light brown with suggestions of darker lines; scutellum and postnotum pale, with a narrow brown median line and with the lateral edges of the sclerite indistinctly brown. Pleuræ uniformly pale without distinct darker marks. Halteres long, brown, pale at the base of the stem. Legs: coxæ pale, femora light brown passing into dark brown at the tip; tibia dark brown, the extreme base slightly paler, but not producing a ringed appearance; tarsi slightly lighter brown.

Wings: almost hyaline; cell *C* light yellowish-brown or yellow; cell  $R_2$  tinged with yellow along the costal margin; cell  $R_3$  tinged with yellow at the tip; veins narrowly margined with pale brown; darker brown clouds at the ends of the radial veins; stigma very pale brown with a narrow border of darker brown. Venation (see Fig. *c*):  $R_8$  long, beyond the arcuation, about three times as long as  $M_{1+2}$  between cross-veins *r-m* and *m*; basal deflection of  $R_{4+5}$  none, so that  $R_{4+5}$  is in a line with  $R_8$  and  $R_{2+3}$  and  $R_{4+5}$  arise directly from the end of the sector; cross-vein *r-m* short but distinct, petiole of cell  $M_1$  very short; cell 1st  $M_2$  sub-triangular; fusion of  $M_3$  and  $Cu_1$  very slight; basal deflection of  $Cu_1$  at, or before, the fork of *M*.

Abdomen: tergum dark brown, the bases and lateral margin of the segments indistinctly paler; sternum pale, with the median spots on the segments very elongate, black, forming an almost continuous line; lateral margins of the sclerites, darker, brownish.

♀, length, 16.5-18.6 mm.; wing, 18.5-20.1 mm. Fore leg, femur, 11.8 mm.; tibia, 13.3 mm. Hind leg, femur, 13.8-14 mm.; tibia, 15.4-16 mm.

*Distribution*.—Island of Cuba, Cayamas (E. A. Schwarz); Island of Porto Rico (Moritz) Osten Sacken's types; Island of Grenada, Lesser Antilles (Busck.)

This remarkably distinct species requires little comparison with the other forms at present known. The plain brown tibiae and the remarkable venation will serve to distinguish the species at a glance.

#### EXPLANATION OF PLATE XVI.

These figures show the venation, and the main features of color-pattern.

*a*, wing of *Brachyremna similis* Williston.

*b*, wing of *Brachyremna dispellens* Walker.

*c*, wing of *Brachyremna unicolor* Osten Sacken.

*d*, wing of *Brachyremna breviventris* Wiedemann.

*e*, wing of *Brachyremna williamsoni*, n. sp.

*f*, wing of *Brachyremna candida*, n. n.

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### STUDIES IN ITONIDIDÆ.

BY E. P. FELT,

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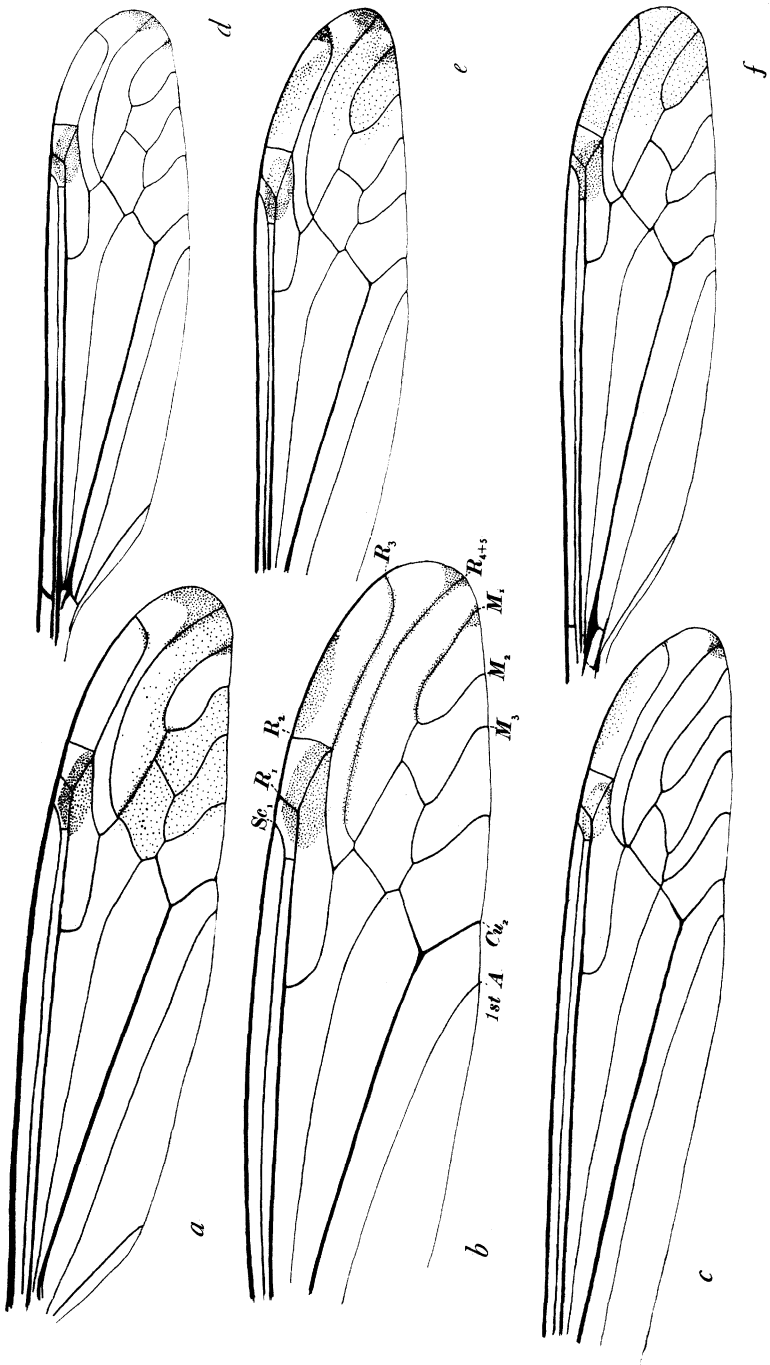
Below we erect two new genera, describe a number of new species and establish more fully the identity of one of the earlier described forms. The last is to us more satisfactory than characterizing new genera or new species. There are a multitude of forms in this family of minute flies and much biological and systematic awaits the investigator. References to the genus *Dicrodiplosis* must be considered provisional, since we have placed in this group a number of dissimilar forms, some of which are hardly cogeneric, because we deem it unwise to attempt a division of the species till more abundant data are available.

#### NEOCATOCHA, new genus.

This remarkable form has the venation of *Catocha* and the greatly reduced antennæ of *Microcerata*, from which latter it is easily distinguished by the normal second antennal segment. The short, sessile, flagellate antennal segments and the characteristic venation serve to separate this genus from *Neptunimyia*. The type species is *N. marilandica* n. sp.

#### *Neocatocha marilandica*, new species.

*Female*.—Length 1.75 mm. Antennæ short, dark brown; 8 segments, the



Brachypremna